

2. (NEW) A method performed by a communications network, said network comprising nodes interconnected by communication links, at least some of said nodes being connected in a ring by said links, said method comprising:

determining whether individual links are operating above a predetermined operational threshold;

broadcasting a first link status message identifying one of the individual links that is not operating above the predetermined operational threshold to the nodes;

updating a routing table at each of the nodes such that the routing tables specify routes that avoid the individual link identified the first link status message.

3. (NEW) The method of claim 2, wherein the determining whether individual links are operating above a predetermined threshold comprises comparing a bit error rates associated with the individual links to a predetermined threshold bit error rate.

4. (NEW) The method of claim 2, further comprising:

determining that the link identified the first link status message is operating above a predetermined operational threshold;

broadcasting a second link status message conveying that the link identified the first link status message is operating above a predetermined operational threshold to each of the nodes;

updating the routing table at each of the nodes such that the routing tables specify at least some routes that include the individual link identified the first link status message.

5. (NEW) The method of claim 2, further comprising routing traffic through the network in accordance with the updated routing tables.

6. (NEW) The method of claim 2, further comprising:

determining whether certain traffic is of a first class or of a second class;

providing priority access to the network for the first class traffic.

7. (NEW) The method of claim 2, further comprising transmitting an acknowledge message from each of the nodes that has received the first link status message.

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8. (NEW) The method of claim 7, further comprising:  
waiting for the expiration of a predetermined time period after the broadcasting the first link status message  
determining whether at least a predetermined number of the acknowledge messages have been received;  
re-transmitting the first link status message if fewer than the predetermined number of the acknowledgement messages have been received.

9. (NEW) The method of claim 7, wherein the first link status message further includes a session identifier.

10. (NEW) The method of claim 2, further comprising:  
transmitting a fault notification message to the node at an opposite end of the link that is not operating above the predetermined operational threshold;  
receiving the fault notification message at the node at the opposite end of the link that is not operating above the predetermined operational threshold;  
rerouting traffic at the node at the opposite end of the link that is not operating above the predetermined operational threshold in response to receiving the fault notification message.

11. (NEW) A method performed by a communications network, said network comprising nodes interconnected by communication links, at least some of said nodes being connected in a ring by said links, said method comprising:  
determining whether individual links are operating above a predetermined operational threshold;  
broadcasting a first link status message identifying one of the individual links that is not operating above the predetermined operational threshold to the nodes;  
updating a routing table at each of the nodes such that the routing tables specify routes that avoid the individual link identified the first link status message;  
routing traffic through the network in accordance with the updated routing tables  
determining that the link identified the first link status message is operating above a predetermined operational threshold;

broadcasting a second link status message conveying that the link identified the first link status message is operating above a predetermined operational threshold to each of the nodes;

updating the routing table at each of the nodes such that the routing tables specify at least some routes that include the individual link identified the first link status message.

12. (NEW) The method of claim 11, further comprising:

determining whether certain traffic is of a first class or of a second class;

providing priority access to the network for the first class traffic.

13. (NEW) The method of claim 11, further comprising transmitting an acknowledge message from each of the nodes that has received the first link status message.

14. (NEW) The method of claim 11, further comprising:

waiting for the expiration of a predetermined time period after the broadcasting the first link status message

determining whether at least a predetermined number of the acknowledge messages have been received;

re-transmitting the first link status message if fewer than the predetermined number of the acknowledgement messages have been received.

15. (NEW) The method of claim 11, wherein the first link status message further includes a session identifier.

16. (NEW) The method of claim 11, further comprising:

transmitting a fault notification message to the node at an opposite end of the link that is not operating above the predetermined operational threshold;

receiving the fault notification message at the node at the opposite end of the link that is not operating above the predetermined operational threshold;

rerouting traffic at the node at the opposite end of the link that is not operating above the predetermined operational threshold in response to receiving the fault notification message.

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